

REMARKS

This is a response to the final Office Action dated February 11, 2005.

Claim 11 has been rejected under 35 U.S.C. 112, second paragraph. Applicant respectfully traverses the rejections. Without conceding to the propriety of the rejection, claim 11 is amended to further improve clarity. However, no new issues are raised by the amendment that would require significant reconsideration or further searching by the Examiner. Accordingly, entry of the amendment is believed to be appropriate and is hereby respectfully requested.

Claim 11 as amended herein sets forth a rate matching pattern that forms a matrix including change bits that indicate a change of corresponding bits in a matrix of interleaved words within a data block, wherein each row of the matrix formed by the rate matching pattern includes a maximum of one of the change bits. It is respectfully submitted that the term "corresponding bits" is clearly explained by the specification. First of all, the claim refers to change bits of a matrix formed by a rate matching pattern. Fig. 2D provides an example of such a matrix with bits for deletion or repetition, e.g., change bits, indicated by "1's" (see paragraph spanning pages 8-9 of the specification, as provided at page 6 of the Preliminary Amendment filed with the application).

Additionally, it is explained in Figs. 2B and 2C that an interleaving circuit may bit-wise fill an interleaving matrix of 4 columns and 8 rows, row by row, for example (see paragraph at page 7, lines 23-31 of the specification, as provided at pages 5 and 6 of the Preliminary Amendment filed with the application).

The deletion / repetition matrix thereby provides a deletion / repetition pattern that is applied to corresponding bits of interleaved words in the interleaving matrix. For example, a

first interleaved word having the bits A_{11} through A_{18} has a deletion / repetition pattern of 10000100 applied to it. For a repetition pattern, the changes bit indicate which bits in the first interleaved word are to be repeated (see paragraph spanning pages 8-9 of the specification, as provided at page 6 of the Preliminary Amendment filed with the application). The pattern 10000100 thus indicates that bits A_{11} and A_{16} are to be repeated. If the pattern of Fig. 2D was a deletion pattern, bits A_{11} and A_{16} would be deleted.

Claim 11 therefore meets the requirements of 35 U.S.C. 112, second paragraph.

Withdrawal of the rejection is therefore respectfully requested.

Claims 1, 3, 10 and 12-16 have been rejected under 35 U.S.C. 102(a) as being anticipated by the 3GPP document. The 3GPP document provides a discussion at page 19, section 4.2.4 of rate matching which applies repetition and puncturing of different transport channels. Specifically, it is stated that for each combination of rates of different transport channels, a "puncturing/repetition factor" is assigned to each transport channel. Furthermore, section 4.2.4.1 of this reference refers to a factor P , which denotes a maximum amount of puncturing allowed (e.g., 0.2 for downlink and uplink). Accordingly, this passage regarding a puncturing/repetition factor simply provides no disclosure or suggestion whatsoever of a rate matching circuit or method of operating a rate matching circuit, which involves selecting a rate matching pattern depending on an associated bit deletion or repetition pattern that is selected to ensure that deleted or repeated bits of a data block are not required to enable all bits from a digital input to be reconstructed, as set forth in independent claims 1 and 10.

Section 4.2.4 of the reference further states that one criterion for a set of puncturing/repetition factors for different transport channels is fulfilling a desired transmission quality requirement. From this, the Examiner asserts that a quality of transmission requirement

can only be achieved by ensuring that none of the required bits for error correction coding are lost, that is, by ensuring that sufficient bits to reconstruct the original data exist at the decoder. Applicant respectfully submits that this conclusion could only be made with the use of hindsight gained impermissibly from the present invention. Generally, the use of hindsight knowledge derived from the applicant's own disclosure to support an obviousness rejection under 35 U.S.C. § 103 is impermissible. See, for example, W. L. Gore and Assocs., Inc. v. Garlock, Inc., 721 F.2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984).

Furthermore, section 4.2.4 of the reference explains that the criteria for fulfilling a desired transmission quality requirement for each transport channel means that required transmission power to meet quality requirements for all transport channels should be as low as possible. Thus, the reference by its own words explains that it is only concerned with keeping transmission power as low as possible. This could hardly be said to be a teaching to the person of ordinary skill in the art to select a rate matching pattern depending on an associated bit deletion or repetition pattern that is selected to ensure that deleted or repeated bits of a data block are not required to enable all bits from a digital input to be reconstructed.

Withdrawal of the rejection is therefore respectfully requested.

Claims 4 and 21 have been rejected under 35 U.S.C. 103(a) as being unpatentable over the 3GPP document in view of Okumura et al. Dependent claims 4 and 21 are allowable at least by virtue of their dependence on claims 1 and 10, respectively, which are allowable for the reasons discussed above.

Withdrawal of the rejection is therefore respectfully requested.

Claims 11 and 17-20 have been rejected under 35 U.S.C. 103(a) as being unpatentable over the 3GPP document and Okumura et al. in view of U.S. patent 5,978,365 to Yi. Yi is cited

by the Examiner as showing puncturers 1405A, 1405B that provide puncturing matrixes. However, the Examiner has not indicated how each of the features of the claims are disclosed or suggested by the prior art. The Office has therefore not met its burden to set forth a *prima facie* conclusion of obviousness. MPEP 2142. In particular, claims 11 and 17-20 recite more than a puncturing matrix. Claim 11, for example, sets forth that a rate matching pattern forms a matrix including change bits that indicate a change of corresponding bits of a matrix of interleaved words within a data block, wherein each row of the matrix formed by the rate matching pattern includes a maximum of one of the change bits. The Examiner is respectfully requested to cite where the identified feature is disclosed or suggested by the prior art, or to withdraw the rejection.

Furthermore, regarding claims 17-20, the cited references fail to disclose or suggest a rate matching pattern that includes change bits for deleting or repeating bits of a data block, where the change bits are offset with respect to each other along adjacent rows and/or columns of a matrix of the rate matching pattern.

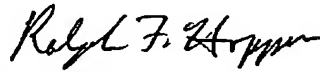
Additionally, at page 8 of the Office Action, lines 2-3, it is stated that: "The 3GPP document and Okumura substantially teaches the claimed invention described in claim 1 (as rejected above)." However, Applicant respectfully notes that Okumura has not been applied against claim 1 in the current Office Action.

Withdrawal of the rejection is therefore respectfully requested.

In view of the foregoing remarks herein, it is respectfully submitted that this application is in condition for allowance. Accordingly, it is respectfully requested that this application be allowed and a Notice of Allowance be issued. If the Examiner believes that a telephone

conference with the Applicant's attorneys would be advantageous to the disposition of this case,
the Examiner is requested to telephone the undersigned.

Respectfully submitted,



Ralph F. Hoppin
Registration No. 38,494

Scully, Scott, Murphy & Presser
400 Garden City Plaza, Suite 300
Garden City, New York 11530
(516) 742-4343
TS:RH:kd